

In the claims:

Please delete existing claims 1-42

Please add the following set of claims:

1. A method for locating at least one radio frequency (RF) tag, the method comprising the steps of:
 - (a) providing a locating device having a means for identifying said at least one RF tag,
 - (b) transmitting a directional transmit command signal to said at least one RF tag by using said locating device, wherein said locating device includes a directional antenna,
 - (c) said at least one RF tag waiting to receive said transmit command signal,
 - (d) upon receiving said transmit command signal, transmitting by said at least one RF tag, at least one response signal in synchronization with said transmit command signal, and
 - (e) receiving said at least one response signal, by said locating device, measuring round trip delay and amplitude of said at least one received response signal.
2. The method of claim 1, wherein said directional transmit command signal is a directional wide band transmit command signal and said response signal is a wide band response signal.
3. The method of claim 2, further comprising the step of:
 - (f) converting said round trip delay and amplitude to distance and directional information and displaying said distance and directional information
 - (g) using the displayed information for locating the at least one RF tag.
4. The method of claim 2, wherein said means for identifying said at least one RF tag is selected from the group consisting of : identification number, serial numbers, all available RF tags, selecting some of said all available RF tags by using input means, a predefined group of RF tags, and features of said at least one RF tag.
5. The method of claim 1, wherein said amplitude is selected from the group consisting of: amplitude of the first Multipath component, an amplitude of a predefined component, and an amplitude resulting from applying a function on measured Multipath components.

6. The method of claim 2, wherein power of said directional transmit command signal can be configured by a user.

7. The method of claim 2, wherein said means for identifying said at least one RF tag includes a device selected from the group consisting of: numeric pad, optical reader, RF receiver, preprogrammed memory.

8. The method of claim 2, wherein said transmitting, by said at least one RF tag, said wide band response signal includes: transmitting, by said at least one RF tag, according to a predefined logic, said wide band response signal in synchronization with said wide band transmit command signal.

9. The method of claim 2, wherein said wide band response signal is transmitted on the same channel of said wide band transmit command signal.

10. The method of claim 2, wherein the measured round trip delay of said at least one received wide band response signal is determined by subtracting a predetermined correction factor from the measured time between the transmission of said wide band transmit command signal and receiving of said wide band response signal, whereby said predetermined correction factor compensates for a predefined time delay of said at least one RF tag between receiving said wide band transmit command signal and transmitting said wide band response signal, and a predefined time delay of said locating device operation.

11. The method of claim 2, wherein said locating device includes a means for overcoming a Multipath effect.

12. The method of claim 11, wherein said means for overcoming a Multipath effect include measuring the delay of the first Multipath component.

13. The method of claim 2, wherein said wide band transmit command signals and wide band response signals includes pulse signals having pulses separated by no-energy periods.

14. The method of claim 13, wherein said pulse signal is composed of a sequence of modulated short pulses.

15. The method of claim 2, wherein said wide band transmit command signals and wide band response signals featuring a bandwidth of about 500 MHz centered between 3 to 10GHz.

16. The method of claim 2, wherein said locating device increases repetition frequency of said at least one additional directional transmit command signal when detecting fast changes in received power of said at least one response signal, and reduces the repetition frequency of said at least one additional directional transmit command signal when detecting stable power of said at least one response signal.

17. A device for locating at least one RF tag, the device comprising:

(a) a directional antenna, (b) a reader, (c) a display controller, and (d) a display device, wherein said reader transmits a message to said at least one RF tag by using said directional antenna, and said at least one RF tag transmits an answer in synchronization with said reader, and said reader receives said answer from said at least one RF tag and measures a round trip delay and an amplitude of the received radio signal, and said reader forwards said measured round trip delay and said amplitude to said display controller controlling said display device.

18. The device of claim 17 wherein said display controller and said display device are implemented in an integrated display and control device.

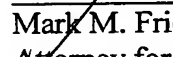
19. The device of claim 17, wherein said directional antenna can be folded whenever said locating device is not in use.

20. The device of claim 17 adapted to be used by a user to manually locate at least one tag, wherein a user receives feedback regarding said at least one RF tag location by means selected from the group consisting of audio means, visual means and audio and visual means.

21. The device of claim 17 wherein said device is used by an electronic system and said measured round trip delay and said amplitude are delivered to an operating system of said electronic system.

22. The device of claim 17 wherein said directional antenna is a Monopulse type antenna including at least two spatially separated directional antennas.

Respectfully Submitted,



Mark M. Friedman
Attorney for Applicant
Registration No. 33,883

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